

*P. hastatus* Sowerby, is a good species of small size and limited distribution in the California region.

*P. hericius* Gould is distinct, and distributed from Port Althorp, Alaska to San Diego, Cal. The variety *albidus* Dall, if not a distinct species, is probably an extreme form of *hericius*.

*P. islandicus* Müller, extends from the Arctic south in constantly deeper water to the Strait of Fuca. Varieties of this were supposed to be *P. rubidus* Hinds, by Middendorff, who did not know the true *rubidus*, and his name for one variety, *beringiana*, takes precedence of my variety *strategus*, which is identical.

*P. hindsii* Carpenter (*rubidus* Hinds, not Martyn) has a very wide distribution from Bering Sea to Cape St. Lucas. It is a good species, the typical form of which has the major ribs on the right valve flattish and smooth. In my variety *navarchus* they are rounded and densely imbricate. The two can be separated in the dark.

*Pecten (Plagiocentrum) circularis* Sowerby, has had a confused nomenclatorial career. It was first named *tumidus* by Sowerby in 1835, but there is an older *tumidus* of Turton, 1822. Sowerby then replaced the name by *ventricosus* under which the species is commonly catalogued. But he had also described in 1835 a *P. circularis* from Guaymas, Mexico, which as figured appears to be merely a color variety of *tumidus*. There is a *P. circularis* of Goldfuss, but it appears to have been published in 1836. The species will then (as indicated by Arnold) take the name *circularis*. It is closely analogous to the Atlantic *P. dislocatus* Say, and its variety *æquisulcatus* bears the same relation to the type that the Atlantic *irradians* does to *dislocatus* (= *gibbus* Lam.)

*Pecten (Patinopecten) caurinus* Gould. This species can at once be distinguished from its analogue *P. yessoënsis* Jay, by the fact that its minor surface sculpture is purely concentric, while that of the Japanese shell is reticulate when in perfect condition.

*P. digitatus* Hinds, is probably only a young specimen of *P. (Nodipecten) subnodosus* Sowerby.

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#### A NEW SONORELLA FROM THE GRAND CANYON, ARIZONA.

BY JUNIUS HENDERSON.

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Among some shells recently received from Mr. Ellsworth Bethel, of East Denver High School, were four dead specimens of *Sonorella*

collected by him on Bright Angel Trail, at Grand Canyon, Arizona, in 1913. He was collecting fungi, and unfortunately did not note the exact locality of the snail find, but writes that he followed the trail closely, and thinks he got the shells "about one hundred yards west of the upper limit of the trail and not more than twenty feet below the top," though he cannot be certain and "may have gotten them as far down as the half way house." He supposed them to be common and made no note of the place. They are much larger than the common *S. coloradoensis* of that region, and differ in other respects. They did not seem to fit the description of any other species, but the finding of so large a species along a trail which has been searched by some of our ablest conchologists and most thorough collectors made me doubt that it could be new, so I sent two specimens to Dr. Pilsbry, who pronounced them undescribed.

*SONORELLA BETHELI*, new species.

Shell rather large, moderately elevated. Whorls five and one-half convex, increasing regularly in size, the last descending about one millimeter in the last five millimeters to the aperture. Lip slightly everted, more strongly so at the base of the aperture, and somewhat reflected over the umbilicus, its terminations connected by a thin transparent callus. Umbilicus moderate, open to the apex. Aperture shortly oval-lunate, oblique. Growth-lines fine, but well-defined under a lens; numerous wrinkles, usually rounded, occasionally acute, coincident with the growth-lines but of course much less numerous. The most interesting character of the species is the spiral sculpture, unusual in this genus, consisting of numerous incised lines, slightly flexuous over the transverse wrinkles, covering the last whorl from umbilicus to suture, and extending without diminution over the anterior half of the penultimate whorl, above which they begin to disappear. Though the four specimens at hand are all more or less weathered, one shows the periostracum to be smooth and shiny, and probably originally of isabella color. One dark-brown spiral band, reaching a width of about one millimeter on the last whorl, occurs just above the periphery, so as to be concealed on all but the last whorl and the anterior half of the penultimate.

Measurements in millimeters: Type (in Univ. Colo. Museum), maj. lat. 21, min. lat. 18.5, alt. 14, alt. measured just in front of aperture 10.5, height of aperture 9.5, width of aperture to callus

margin 10.5. Cotype (in Univ. Colo. Museum), broken specimen, maj. lat. 20.5, min. lat. 17, alt. 14. Cotype (in possession of Mr. Bethel), with third whorl depressed, maj. lat. 20.5, min. lat. 17, alt. in front of aperture 9.5. Cotype (in Acad. Nat. Sci. Phila.), maj. lat. 21.2, min. lat. 18.2, alt. 13.1 mm.

Type locality, Bright Angel Trail, Grand Canyon, Arizona.

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NOTES ON THE ANCYLIDAE OF NORTH AFRICA.

BY BRYANT WALKER, SC. D.

(Concluded from p. 117.)

The following so-called species of the *Ancylus fluviatilis* group have been listed from Algeria by Bourguignat and others:

*Ancylus brondeli* Bgt.

*costulatus* Kust.

*compressiusculus* M. T.

*subriparius* Bgt.

*epipedus* Bgt.

*fluviatilis* L.

*bledahensis* Bgt. = *fluviatilis gibbosus teste* Westerl.

*djurdjurensis* Deb.

*peraudieri* Bgt.

*platylenus* Bgt.

*raymondi* Bgt.

*striatus* Q. & G.

*simplex* Fer. = *fluviatilis teste* Clessin and Westerlund.

*gibbosus* Bgt. = *fluviatilis* var. *teste* Clessin and Westerlund.

*strictus* Mor.

In this connection it seems necessary to call attention to the persistently erroneous use of *Ancylastrum* Bgt. for this group by the continental authors, e. g., Fischer, 1881, p. 504, Clessin, 1882, p. 27, Westerlund, 1885, p. 89, Germain, 1913, p. 261.

As Hedley (1894, p. 118) has already shown, Bourguignat twice gave *A. cumingianus* as the type of that group. "Since the describer of the group clearly and repeatedly declared his type to be *cumingianus*, it is not legitimate for Fischer, Clessin or Tryon to alter the type of *Ancylastrum* from *A. cumingianus* to *A. fluviatilis*.